

Source:

Agwunbi, J., London, A. (2009). Removing Costs from the Health Care Supply Chain: Lessons from Mass Retail. *Health Affairs*. 28(5), 1336-1342.

The article looks at the how to reduce healthcare costs while at the same time maintaining high levels of quality and innovation. The authors suggest that one of the ways this can be achieved by taking lessons from mass retail. In mass retail, the primary means of reducing costs is focusing on streamlining the supply chain by eliminating the “middle man” and “commoditizing” their products—that is they purchase items not based on a brand name but on “volume-based cost discounts” (i.e. bulk orders) and encouraging price competition. The authors acknowledge that this can only be done on basic primary care and its’ tools such as generic pharmaceutical drugs and basic medical equipment (i.e. thermometers, lab and x-ray tools, blood pressure cuffs).

They also advocate using retail clinics to provide the basic healthcare services (i.e. physicals, eye exams, check-ups and pharmacy) to the consumer. It is through HIT that this is made possible. The care at these clinics is administered by either physician assistants or nurse practitioners supervised via telemedicine by a physician. These cost saving measures of basic healthcare services have allowed these clinics to develop an “episode of care bundling” for services that in turn cuts the cost of providing healthcare by significantly reducing the need for complex billing statements by stating unequivocally what the price is for a set of treatment and procedures. Also, this use of bundling allows for clinics to make contracts medical suppliers (i.e. pharmaceutical companies, eye glass and contact lens manufacturers, etc) that through bulk purchasing reduces costs and streamlines the supply side process.

Sources:

Kumar, S., Swanson, E., & Tran, T. (2009). RFID in the healthcare supply chain: usage and application. *International Journal of Health Care Quality Assurance*, 22(1), 67-81.

Scheurenberg, B. K. (2008). RFID moves beyond assets: Provider organizations use tracking technologies to help improve workflow, quality of care and patient safety. *Health Data Management*, 16(1), 36-38.

RFID stands for radio frequency identification, and is being used in hospitals as a tool for tracking pharmaceuticals, equipment and staff. It is increasingly being used to track patients as a patient safety tool, and is capable of improving processes by providing time and motion analysis. RFID is also used to track paper records.

RFID has the potential for enhancing healthcare services by lowering costs, improving patient care by improving quality and making patient care more reliable and consistent through the accurate management of supplies and materials.

RFID has two components: tags and readers. Objects or people are affixed with tags (stick-on or in the form of a badge or card). Readers are used to track the location of the tagged objects or people. RFID comes in two flavors: active and passive. Active RFID tags continuously emit a signal that can be read by readers, while passive tags require a scanning device to be read. Both are applicable in the hospital environment: active tags are the best choice if the goal is to determine the location of the tagged item or person in real time. Passive tags are used when “tracking requirements aren’t as exact or workflow is more hands-on” (Scheurenberg, 2008), such as specimen tracking. Active tags are more expensive than passive tags (with a price difference range of \$0.45 to almost \$50).

Another factor for success of RFID implementations is knowledge of current processes, and prior application of Lean Six Sigma to best understand where RFID can improve workflow and process. In the article, this was demonstrated through the childbirth/delivery process. RFID is recommended as a pilot project before full implementation, to best understand its application and refine the application of the technology before a full-scale deployment.

Current use of RFID in healthcare is limited both due to the cost of tags, readers, and RFID systems, as well as incomplete understanding of the impact and implementation factors of these systems. Currently, many items in the healthcare supply chain are not valuable enough to warrant tracking by RFID. It is estimated that a product should be worth at least \$15 to justify RFID tracking. At the current time, the most effective implementations of RFID are limited to “procurement, in-house operations, and delivery” (Kumar, Swanson, & Tran, 2009).

Manufacturers are predicted to tag items at the pallet level rather than the individual item level, leaving end-users with the burden of tagging individual items. Collaboration between suppliers and customers will be integral in the success of RFID in the future. Capital investment in technology is also important, which will involve cooperation between suppliers and customers.

RFID is being used to track inventory as well, through systems that record supply serial number and expiration date on an RFID tag, and also record when the supply is checked in to a supply cabinet. When a staff member removes an item, he swipes his badge before removing the item. This results in the ability to track who took an item and

when. It also allows real time inventory management and improves patient safety because staff can ensure they have necessary supplies before and during surgery.

Source:

Lawson: Patient care is the winner with efficient operating model: Catholic Health Initiatives. Case Study (2009). Reviewed on January 27, 2010, from: <http://hi-602lawson.wikispaces.com/file/view/IHC-CS7043.pdf>

Catholic Health Initiatives (CHI) recently implemented entire suite of Lawson Software (NASDAQ: LWSN) for business applications called Lawson S3 Enterprise Management System. Here are some of the important outcomes of implementing Lawson at CHI from various teams/departments:

Information Technology Enterprise Resource Planning (ERP) Systems and

Applications: Hardware upgrade was done, security classes were built to support 41 separate MBOs and provide data-level security; Lawson Smart Notifications, reports and dashboards constructed to support the decision-making of executives, custom interfaces connect numerous additional systems, Lawsons system helps to centralize and standardize data

HR and Payroll: Accuracy in pay conversions, compensations and other payroll calculations; compliance with business rules and regulations; fewer errors on interface files, time and cost efficiency; central data system reduces redundancy in data and improves consistency in data; availability of pay statements in advance to avoid later adjustments; transformation of local HR departments from transaction-oriented to more strategic-oriented; availability of time to focus on workforce and talent management, compensation practices and organizational effectiveness.

Accounts Payable: AP functions have been centralized; invoice processing method, its accessibility and visibility is better hence better financial forecasting; improved reporting

tools assist to measure and improve performance at the local level and across the nationwide systems.

Supply Chain: This department experienced very remarkable results in supply cost savings of \$125 million. Also data sources for supply reports are reduced from 30 to one, item and contract data conversions occur quickly; Lawson system enables CHI summarize everything related to contracts; the Lawson Business Intelligence (LBI) tools provide operational reports which eases managing the supplies. Overall Supply chain savings are: Utilization 20%, Freight 10%, Staffing 4%, and Supplies 64%.

Finance: Unified financial information offers fair comparisons among MBOs, better information access offers faster and better decision making, Lawson system shortened the book closing period; better management of labor costs.

Outcome summary: increased time and cost efficiency; better accuracy, visibility and accessibility of transactions; more time spent towards patient care; centralized database; improved consistency and integrity of databases throughout CHI systems nationwide.

Source:

Smith-Daniels, Vicki. (2008). Hitting the Benchmark: How To Get The Most From Your Metrics. *Materials Management in Health Care*, 17(9) ,18.

In this article the author discusses the use of benchmarks to measure and improve efficiency in supply-chain activities. We selected this article because the Lawson supply management application is designed to improve efficiency. Understanding the use of benchmarks in this area should provide some context on what functions and capabilities an effective application should include. The author also focuses on the process of starting a benchmarking program. The author breaks down this process into four stages: Setting the Foundation, Gathering Data, Interpreting the Benchmarks and Taking Action.

Critical components for setting a solid foundation are establishing objectives, recruiting the right people, utilizing industry standard definitions and facilitating communication. To establish objectives, she recommends utilizing project management tools to create a project charter to be shared with all stakeholders. Enlisting the right people from multiple departments should include an executive level sponsor and representatives from finance, accounting, IT and quality assurance. Other team members should include physician leaders and vendor representatives. A benchmarking coordinator should be designated. The Healthcare Resource & Materials Management and Healthcare Financial Management Association has developed a standard for benchmarking tools. The author strongly recommends a benchmarking tool that uses this standard. Communication from the sponsor to all department leaders is important in avoiding resistance to data collection activities.

Gathering data can be straightforward for some hospitals or laborious and time consuming for others depending on their readiness and experience with benchmarking.

Assessing readiness beforehand is important. A project schedule should be established for completing data collection and weekly updates on progress should be posted. A team meeting to review results and reconsider assumptions can be done prior to releasing the results.

Interpreting the data should include highlighting the relationships between operational and organizational practices and capabilities. The primary goal is to identify the operational, organizational and structural features of top-performing hospitals. Thus benchmarking data should include not only financial data but also on every other factor such as contract compliance, reporting structures and product delivery.

Finally, after a benchmarking initiative, teams should be commissioned to develop business plans on the potential areas for improvement. Such plans should include projected return on investment.

This article helped define some of the outcomes of interest in implementing a supply chain program. In addition it discussed issues in implementation of a benchmarking initiative for supply chain management.

Source:

Barlow, Rick D. (2009, July). Basic instincts drive Mountain States' forward momentum: 'Hub-and-spoke' IDN masters supply chain fundamentals with IT creativity. *Healthcare Purchasing News*, p. 8.

This article is a case study from the Mountain States Health Alliance which underwent an expansion in 1988 and as part of that process centralized and improved their supply chain management. Among the many improvements in their processes, they adapted the Lawson MMIS. The case study provides an excellent example of how the MMIS technology fits in with the overall supply management functions. From this case it is possible to understand many of the fundamentals of the technology.

The expansion from one to several hospitals meant that purchasing of supplies was done in multiple locations. They restructured the entire process by developing a centralized corporate materials management office. All contracts and purchasing were done through this central office. Then each hospital had an on-site materials staff that reported to the central office. The advantages of this system were the negotiating and purchasing power afforded to a large single entity. Communication between the central office and the on-site facilities was enhanced with video-conferencing.

The Lawson MMIS added some specific capabilities key to the program's success. First electronic ordering increased to 80% and Lawson's fax to electronic integrator brought this up to 90-95%. Lawson's RSS, Requisition Self service also improved productivity so that while the volume of orders increased 49%, no additional staff were needed. The RSS system also allows clinicians to view details about products and place orders directly online.

The case study did not answer many of the specifics about the MMIS system by Lawson but did illustrate who some of the users are. For example the clinicians can

access the system for ordering. Presumably department heads can do the same. The approval for orders goes through a central office. While no specifics about reports were mentioned, such a centralized system clearly would provide a variety of measures including benchmarks to the top administrators.